

What is claimed is:

- 5 *Sub 1*
1. An isolated nucleic acid comprising a PEG-3 promoter comprising the nucleotide sequence beginning with the guanosine (G) at position -270 and ending with the cytosine (C) at position +194 of SEQ ID NO: 1.
 2. An isolated nucleic acid comprising a fragment of the nucleotide sequence of claim 1 which is at least 15 nucleotides in length.
 3. The nucleic acid of claim 2, wherein the nucleic acid fragment comprises
 - (i) a PEA3 protein binding sequence consisting of the nucleotide sequence beginning with the thymidine (T) at position -105 and ending with the thymidine (T) at position -100 of SEQ ID NO: 1,
 - (ii) a TATA sequence consisting of the nucleotide sequence beginning with the thymidine (T) at position -29 and ending with the adenosine (A) at position -24 of SEQ ID NO: 1, or
 - (iii) an AP1 protein binding sequence consisting of the nucleotide sequence beginning with the thymidine (T) at position +6 and ending with the adenosine (A) at position +12 of the

nucleotide sequence shown in SEQ ID NO: 1.

4. The nucleic acid of claim 3, wherein the nucleic acid comprises at least two of the nucleotide sequences of claim 3.

5

5. The nucleic acid of claim 3, wherein the nucleic acid comprises the three nucleotide sequences of claim 3.

B

6. The nucleic acid of claim 2, wherein the fragment has promoter activity.

10

7. The nucleic acid of claim 2, wherein the fragment is operably linked to a gene of interest.

8/22

1

8. The nucleic acid of claim 7, wherein the gene of interest is a reporter gene.

9. The nucleic acid of claim 8, wherein the reporter gene encodes beta-galactosidase, luciferase, chloramphenicol transferase or alkaline phosphatase.

20

10. The nucleic acid of claim 7, wherein the gene of interest is a tumor suppressor gene, a gene whose expression causes apoptosis of a cell, or a cytotoxic gene.

25

11. A vector comprising the nucleic acid of any one of claims 1 to 10.

8/23

12. A host cell comprising the vector of claim 11.

13. The host cell of claim 12, wherein the host cell is a tumor cell.

5 14. The host cell of claim 13, wherein the tumor cell is a melanoma cell, a neuroblastoma cell, a cervical cancer cell, a breast cancer cell, a lung cancer cell, a prostate cancer cell, a colon cancer cell or a glioblastoma multiforme cell.

10 15. A method for identifying an agent which modulates PEG-3 promoter activity in a cell which comprises:

15 (a) contacting the cell with the agent wherein the cell comprises a nucleic acid comprising a PEG-3 promoter operatively linked to a reporter gene;

(b) measuring the level of reporter gene expression in the cell; and

20 (c) comparing the expression level measured in step (b) with the reporter gene expression level measured in an identical cell in the absence of the agent, wherein a lower expression level measured in the presence of the agent is indicative of an agent that inhibits PEG-3 promoter activity and wherein a higher expression level
25 measured in the presence of the agent is indicative of an agent that enhances PEG-3 promoter activity, thereby identifying an agent which modulates PEG-3 promoter activity in the cell.

16. The method of claim 15, wherein the cell is a melanoma cell, a neuroblastoma cell, a cervical cancer cell, a breast cancer cell, a lung cancer cell a prostate cancer cell, a colon cancer cell or a glioblastoma multiforme cell.

5

17. The method of claim 15, wherein the agent comprises a molecule having a molecular weight of about 7 kilodaltons or less.

18. The method of claim 15, wherein the agent is an antisense nucleic acid comprising a nucleotide sequence complementary to at least a portion of the sequence shown in SEQ ID NO: 1 and is at least 15 nucleotides in length.

19. The method of claim 15, wherein the agent is a DNA molecule, a carbohydrate, a glycoprotein, a transcription factor protein or a double-stranded RNA molecule.

20. The method of claim 15, wherein the agent is a synthetic nucleotide sequence, a peptidomimetic, or an organic molecule having a molecular weight from 0.1 kilodaltons to 10 kilodaltons.

21. The method of claim 15, wherein the reporter gene encodes beta-galactosidase, luciferase, chloramphenicol transferase or alkaline phosphatase.

22. The method of claim 15, wherein expression of PEG-3 promoter activity measured is equal to or greater than a 2.5 to 3.5 fold increase or decrease.

23. The method of claim 15, wherein the PEG-3 promoter is the nucleic acid of claim 1, 2, 3, 4 or 5.

24. A method for treating cancer in a subject which comprises administering a nucleic acid comprising a PEG-3 promoter operatively linked to a gene-of-interest wherein the gene of interest is selectively expressed in cancerous cells in the subject and such expression regulates expression of PEG-3 resulting in growth suppression or death of the cancerous cells, thereby treating cancer in the subject.

25. The method of claim 24, wherein the nucleic acid consists essentially of

(i) a PEA3 protein binding sequence consisting of the nucleotide sequence beginning with the thymidine (T) at position -105 and ending with the thymidine (T) at position -100 of SEQ ID NO: 1,

(ii) a TATA sequence consisting of the nucleotide sequence beginning with the thymidine (T) at position -29 and ending with the adenosine (A) at position -24 of SEQ ID NO: 1, and

(iii) an AP1 protein binding sequence consisting of the nucleotide sequence beginning with the thymidine (T) at position +6 and ending with the adenosine (A) at position +12 of the nucleotide sequence shown in SEQ ID NO: 1.

26. The method of claim 24, wherein the nucleic acid has a sequence complementary to at least a portion of SEQ ID NO: 1 of at least 25 nucleotides in length.
27. The method of claim 24, wherein the cancer is melanoma, neuroblastoma, astrocytoma, glioblastoma multiforme, cervical cancer, breast cancer, colon cancer, prostate cancer, osteosarcoma or chondrosarcoma.
28. The method of claim 24, wherein the administering is carried out via injection, oral administration, topical administration, adenovirus infection, liposome-mediated transfer, topical application to the cells of the subject, or microinjection.
29. The method of claim 24, wherein the subject is a mammal.
30. The method of claim 29, wherein the mammal is a human.
31. The method of claim 24, wherein the gene of interest is an gene whose expression causes apoptosis of a cell.
32. The method of claim 24, wherein the gene comprises an *Mda-7* gene or a *p53* gene.
33. The method of claim 24, wherein the gene of interest is a tumor suppressor gene.

34. The method of claim 33, wherein the suppressor gene is mda-7.

35. The method of claim 24, wherein the gene of interest is a
5 cytotoxic gene.

36. The method of claim 35, wherein expression of the cytotoxic
gene causes cell death.

37. The method of claim 36, wherein the cytotoxic gene is selected
from the group consisting of HSV-TK, p21, p27, and p10.

add B4